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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Application Number: 10/716,688
Filing Date: November 19, 2003
Appellant(s): BOUKNIGHT ET AL.

Scott D. Paul
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 9/9/09 appealing from the Office action mailed 2/24/09.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6,836,785 B1	BAKSHI ET AL.	12-2004
6,842,800 B2	DUPONT	1-2005
5,339,413	KOVAL ET AL.	8-1994

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-3 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bakshi et al. (Bakshi), U.S. Patent No. 6,836,785 B1, in view of Dupont, U.S. Patent No. 6,843,800 B2, and further in view of Koval et al. (Koval), U.S. Patent No. 5,339,413.

As to claim 1, Bakshi discloses an autonomic buffer configuration method (Abstract, ln. 1-4, "variable sized buffer") comprising the steps of:

monitoring data (Fig. 4, items 410 and 420; Col. 5, ln. 6-11, "wait for an incoming request... the process determines whether a server is in an overloaded state") flowing through a buffer (Fig. 4, items 440, 470, and 480; Col. 5, ln. 20-29, "the process determines whether the buffer is at an acceptance limit... If the buffer is filled to the acceptance limit, then the process proceeds to step 480; otherwise, the process proceeds to step 470") in a communications system (Fig. 1; Col. 2, ln. 25-36);

computing an optimal buffer size (Col. 4, ln. 12-16, "alter the capacity of the variable size buffer 302") based upon a specification of a required percentage (Col. 4, ln. 12-16, "the acceptance limit 306 can be varied between 100% and 0% in order to alter the capacity of the variable size buffer 302"); and

re-sizing said buffer (Col. 4, ln. 9-12, "variable size buffer") without re-initializing said resized buffer (Col. 4, ln. 14-16, "the acceptance limit 306 can be varied between 100% and 0% in order to alter the capacity of the variable size buffer 302"; Col. 4, ln. 29-44 and 50-54, resizing is performed dynamically in response to the current load on the processor 300, re-initialization is not required as only requests that would push the buffer over full capacity are blocked).

Bakshi is silent on a plurality of buffers;

recording in at least one buffer profile different data sizes for different ones of said data flowing through said buffer during an established interval of time; and

the required percentage being a required percentage of times a buffer must be able to accommodate data of a particular size.

However, Dupont discloses recording in at least one buffer profile different data sizes for different ones of data (Fig. 1, item 60, "Packet Monitor"; Col. 2, ln. 47-49, "monitors incoming data packets to track the size of all of the data packets and to track the frequency at which specific packet sizes are received"; Col. 2, ln. 53-55, "size frequency information may be stored in a frequency look-up table or by other suitably [sic] means") flowing through buffers (Fig. 1; Col. 2, ln. 35-39, "packet monitor 60 monitors and stores information regarding incoming data packets at the input queues 20") during an established interval of time (Col. 2, ln. 47-49, "track the frequency at which specific packet sizes are received", frequency is a function of time); and

a required percentage of times a buffer must be able to accommodate data of a particular size (Col. 3, ln. 24-34, "buffer memory allocator 80 uses the packet size information obtained by the packet monitor 60 to determine the number of buffer units of each type to allocate").

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Bakshi by recording, in at least one buffer profile, different data sizes for different ones of data flowing through buffers during an established interval of time and defining a required percentage of times a buffer must be able to

accommodate data of a particular size as taught by Dupont in order to efficiently allocate buffers for the storage of variable-sized data packets, for example "small packets do not have to be stored in large buffer units that could otherwise hold a data packet, and conversely, a large data packet does not have to be segmented into a plurality of smaller segments for storage in smaller buffer units" (Dupont: Col. 4, ln. 39-43).

Bakshi and Dupont are silent on a plurality of buffers.

However, Koval discloses a plurality of buffers (Abstract; Fig. 3).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Bakshi and Dupont by including a plurality of buffers as taught by Koval in order to "efficiently stream or transfer data in real-time" (Koval: Col. 3, ln. 1-3) by controlling "the size of and how many stream buffers are allocated" (Koval: Col. 2, ln. 57-63).

As to claim 2, Bakshi, Dupont, and Koval disclose the invention substantially as in parent claim 1, including said recording step (Dupont: see claim 1 above) further comprises the step of varying delays between consecutive input/output operations in said communications system (Bakshi: Col. 4, ln. 38-44; Col. 4, ln. 60-64) to affect how much data flows between said communication system and an application coupled to said communications system (Dupont: Col. 4, ln. 25-29).

As to claim 3, Bakshi, Dupont, and Koval disclose the invention substantially as in parent claim 1, including said monitoring step (Bakshi: see claim 1 above) comprises the step of monitoring said data for each connection in said communications system (Bakshi: Fig. 4, items 410 and 420; Col. 5, ln. 6-11, "wait for an incoming request... the process determines whether a server is in an overloaded state"; Col. 1, ln. 15-21; Col. 4, ln. 50-54).

As to claims 14-16, the claims are rejected for reasons similar to claims 1-3, respectively, above.

(10) Response to Argument

- **Argument 1** (see page 8 of the appeal brief)

Appellant argues the Examiner is misconstruing the term "required percentage" and that the teachings of Bakshi do not disclose a "required percentage." Appellant states that as opposed to being required, the percentage is just a number that alters the capacity of the buffer.

- **Examiner's Response to Argument 1**

The Examiner notes that by definition the capacity of the buffer is a required percentage, because it is varied between 0% and 100% (Col. 4, ln. 12-16). In other words, the capacity of the buffer is an inherent concept as even if the varying percentage is not utilized, then the acceptance limit will be 100%. Therefore, the capacity of the buffer and its acceptance limit will always be present in one form or another and therefore it is required by definition. To not be required, would imply a buffer that has an undefined capacity, which does not make sense given that a buffer will always be limited by its physical and logical constraints.

- **Argument 2** (see page 8 of the appeal brief)

Appellant argues Dupont fails to disclose the notion of computing an optimal buffer size. Arguing instead, Dupont acts by changing the number of buffers of a particular type.

- **Examiner's Response to Argument 2**

Dupont discloses computing how many buffers should be of particular sizes (Col. 3, ln. 24-34, "N buffer units of size s" and "M buffer units of size b"). The calculation is within the buffer memory available and then allocating a variable number of buffer units of variable sizes relative to the traffic received recently. In other words, Dupont does calculate the optimal size of a buffer as it determines how many buffer units of a first size should be

created and how many buffer units of a second size should be created in the buffer memory (in the example given in the cited section). Therefore, the creation of each individual buffer unit involves the determination of an optimal buffer unit size and the buffer memory as a whole is sub-divided into optimal sizes.

- **Argument 3** (see page 9 of the appeal brief)

Appellant argues the Examiner's proposed benefit for combining Bakshi and Dupont ignores the teachings of Bakshi. Appellant states that efficiently allocating a buffer is not important to Bakshi.

- **Examiner's Response to Argument 3**

The fact that Bakshi varies the size of the buffer in response to load does not eliminate the need for efficiently allocating buffer units. Bakshi and Dupont address two different needs, both of which would be recognized as desirable and suggested to combine by the teachings of Bakshi and Dupont. Bakshi teaches varying the acceptance limit of an already established buffer in response to load. Dupont is directed to an earlier step in buffer operation, wherein the individual buffer units within a buffer memory are allocated efficiently in response to the size of traffic received. In other words, Dupont would first efficiently allocate buffer units within a buffer memory, and then Bakshi would further limit

the acceptance of data into the buffer based on load. Therefore, the two address separate matters and having both would be desirable for the reasons given here and in the motivation to combine in the grounds of rejection.

- Argument 4 (see page 14 of the appeal brief)

Appellant argues if the requests of Bakshi are variable in size that Bakshi would not be able to incorporate the resizing of the buffer while still being able to accurately vary the acceptance limit.

- Examiner's Response to Argument 4

As noted in the Examiner's response to argument 3, the calculation of the optimal buffer unit sizes is within the buffer memory as disclosed by Dupont. Bakshi's teachings are directed to altering the acceptance limit of the buffer memory as a whole. Therefore, calculating individual units within the buffer memory in response to traffic could be accomplished while still allowing for the acceptance of traffic into the entirety of the buffer memory based on load. The Examiner is unclear as to Appellant's point as to why such a modification would not be possible.

- Argument 5 (see page 14 of the appeal brief)

Appellant argues if the requests of Bakshi are all of the same size, then Dupont's modification of calculating buffer unit size based on received traffic size would not provide any benefit.

- **Examiner's Response to Argument 5**

The Examiner notes that Bakshi does not state that the traffic is all of the same size. Additionally, the motivation to combine is based on what the prior art references would suggest to one of ordinary skill in the art. Because the Appellant has noted the possibility that the traffic may be varied in size, it may be assumed that one of ordinary skill in the art would be able to draw from Bakshi and Dupont the scenario in which the size is varied in Bakshi. At the very least, the teachings of both would enable one of ordinary skill in the art to combine the teachings in the way proposed by the Examiner in order to gain the benefits suggested by both.

In response to Appellant's argument, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See In re Keller, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

- **Argument 6** (see page 15 of the appeal brief)

Appellant argues the reliance upon Koval ignores the remainder of the arguments against the prior art references as a whole.

- **Examiner's Response to Argument 6**

The Appellant's argument against Koval relies merely upon the failures of Bakshi and Dupont to disclose the relevant subject matter of the claims. However, the Examiner has responded to these arguments and therefore the reliance upon Koval is not at issue.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Brian P. Whipple

/B. P. W./

Examiner, Art Unit 2452

12/3/09

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